

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Original) A supported molecularly imprinted polymer, characterised in that it is obtainable by
 - (a) providing a composition comprising a polymerisation medium with at least one functional monomer, a template, a support, and a free radical initiator;
 - (b) polymerisation of the composition while confining the polymerisation to the surface of the support, thereby providing a molecularly imprinted polymer on the support;
 - (c) separation of the supported molecularly imprinted polymer from the polymerisation medium;
 - (d) removal of the template from the supported molecularly imprinted polymer;
 - (e) reuse of the polymerisation medium for preparing further supported molecularly imprinted polymer by repeating steps (a) - (d).

2. (Original) A supported molecularly imprinted polymer according to claim 1, wherein the polymerisation is confined to the surface of the support by confining the free radical initiator to the support.

3. (Original) A supported molecularly imprinted polymer according to claim 2, wherein the free radical initiator is bound or adsorbed to the surface of the support.

4. (Previously Presented) A supported molecularly imprinted polymer according to claim 1, wherein the support is selected from the group consisting of porous and non-porous, planar and non-planar inorganic and organic supports.

5. (Previously Presented) A supported molecularly imprinted polymer according to claim 1, wherein the support is a particle and the free radical initiator is an azo-initiator that is bound to the surface of the particle.

6. (Original) A supported molecularly imprinted polymer according to claim 5, wherein the azoinitiator is bound to the surface of the particle by a two point attachment.

7. (Previously Presented) A supported molecularly imprinted polymer according to claim 1, wherein the initiator is an azo-bis-amidine initiator that is adsorbed to the surface of the support and is insoluble in the polymerisation medium.

8. (Original) A supported molecularly imprinted polymer according to claim 7, wherein the initiator is 2,2'-azo-bis (2-amidinopropane) or 2,2'-azobis (N,N'-dimethylene-isobutyramidine).

9. (Original) A supported molecularly imprinted polymer according to claim 1, wherein the polymerisation is confined to the surface of the support by subjecting the composition to microwave irradiation which selectively heats the support and thereby initiates a polymerisation reaction at the surface of the support.

10. (Previously Presented) A supported molecularly imprinted polymer according to claim 1, wherein the polymerisation on the support is repeated at least once with a different composition to obtain at least one further layer of a molecularly imprinted polymer; a layer of different polarity; or a layer of other functional properties.

11. (Previously Presented) A supported molecularly imprinted polymer according to claim 1, wherein the template is selected from the group consisting of organic or inorganic molecule entities, ions, antibodies, antigens, amino acids, peptides, proteins, nucleotides, DNA-bases, carbohydrates, drugs, pesticides, and derivatives thereof.

12. (Original) A method for preparing a supported molecularly imprinted polymer, characterised by

- (a) providing a composition comprising a polymerisation medium with at least one functional monomer, a template, a support, and a free radical initiator;
- (b) polymerising the composition while confining the polymerisation to the surface of the support, thereby providing a molecularly imprinted polymer on the support;
- (c) separating the supported molecularly imprinted polymer from the polymerisation medium;
- (d) removing the template from the supported molecularly imprinted polymer;
- (e) reusing the polymerisation medium for preparing further supported molecularly imprinted polymer by repeating steps (a) - (d).

13. (Original) A method according to claim 12, wherein the polymerisation is confined to the surface of the support by confining the free radical initiator to the support.

14. (Original) A method according to claim 13, wherein the free radical initiator is bound or adsorbed to the surface of the support.

15. (Original) A method according to claim 14, wherein the support is a particle and the initiator is an azoinitiator that is bound to the surface of the particle.

16. (Original) A method according to claim 15, wherein the azoinitiator is bound to the surface of the particle by a two point attachment.

17. (Original) A method according to claim 16, wherein the azoinitiator is the reaction product of glycidoxypropyltrimethoxysilane (GPS) and azo-bis (cyanopentanoic acid) (ACPA).

18. (Original) A method according to claim 14, wherein the initiator is an azo-bis-amidine initiator that is adsorbed to the surface of the support and is insoluble in the polymerisation medium.

19. (Original) A method according to claim 18, wherein the initiator is 2,2'-azobis (2-amidinopropane) or 2,2'-azobis (N,N'-dimethyleneisobutyramidine).

20. (Original) A method according to claim 12, wherein the polymerisation is confined to the surface of the support by subjecting the composition to microwave irradiation which selectively heats the support and thereby initiates a polymerisation reaction at the surface of the support.

21. (Previously Presented) A method according to claim 12, wherein the polymerisation on the support is repeated at least once with a different composition to

obtain at least one further layer of a molecularly imprinted polymer; a layer of different polarity; or a layer of other functional properties.

22. (Canceled)

23. (Previously Presented) Azoinitiator as a means of carrying out the method of claim 12, characterised in that it is the reaction product of glycidoxypyltrimethoxysilane (GPS) and azo-bis-(cyanopentanoic acid) (ACPA).

24. (Previously Presented) A supported molecularly imprinted polymer according to claim 2, wherein the support is selected from the group consisting of porous and non-porous, planar and non-planar inorganic and organic supports.

25. (Previously Presented) A supported molecularly imprinted polymer according to claim 3 wherein the support is selected from the group consisting of porous and non-porous, planar and non-planar inorganic and organic supports.

26. (Previously Presented) A supported molecularly imprinted polymer according to claim 2, wherein the support is a particle and the free radical initiator is an azo-initiator that is bound to the surface of the particle.

27. (Previously Presented) A supported molecularly imprinted polymer according to claim 2, wherein the initiator is an azo-bis-amidine initiator that is adsorbed to the surface of the support and is insoluble in the polymerisation medium.

28. (Previously Presented) A supported molecularly imprinted polymer according to claim 2, wherein the polymerisation on the support is repeated at least once with a different composition to obtain at least one further layer of a molecularly imprinted polymer; a layer of different polarity; or a layer of other functional properties.

29. (Previously Presented) A supported molecularly imprinted polymer according to claim 2, wherein the template is selected from the group consisting of organic or inorganic molecule entities, ions, antibodies, antigens, amino acids, peptides, proteins, nucleotides, DNA-bases, carbohydrates, drugs, pesticides, and derivatives thereof.

30. (Previously Presented) A method according to claim 13, wherein the polymerisation on the support is repeated at least once with a different composition to obtain at least one further layer of a molecularly imprinted polymer; a layer of different polarity; or a layer of other functional properties.

31. (Previously Presented) Azoinitiator as a means of carrying out the method of claim 13, characterised in that it is the reaction product of glyxidoxypropyltrimethoxysilane (GPS) and azo-bis-(cyanopentanoic acid) (ACPA).

32. (Previously Presented) A chromatography process wherein the supported molecularly imprinted polymer of claim 1 is utilized.

33. (Previously Presented) A separation process wherein the supported molecularly imprinted polymer of claim 1 is utilized.

34. (Previously Presented) A chemical sensor comprising the supported molecularly imprinted polymer of claim 1.

35. (Previously Presented) A process for molecular recognition as stationary phase in capillaries wherein the supported molecularly imprinted polymer of claim 1 is utilized.

36. (Previously Presented) A process for selective sample enrichment wherein the supported molecularly imprinted polymer of claim 1 is utilized.

37. (Previously Presented) A catalysis process wherein the molecularly imprinted polymer of claim 1 is utilized.

38. (New) A molecularly imprinted polymer according to claim 1, wherein the duration of polymerisation is adjusted in a manner that optimizes the mass transfer properties of the resulting thin layer film.

39. (New) A method according to claim 12, wherein the duration of the polymerisation is adjusted in a matter that optimizes the mass transfer properties of the resulting thin layer film.